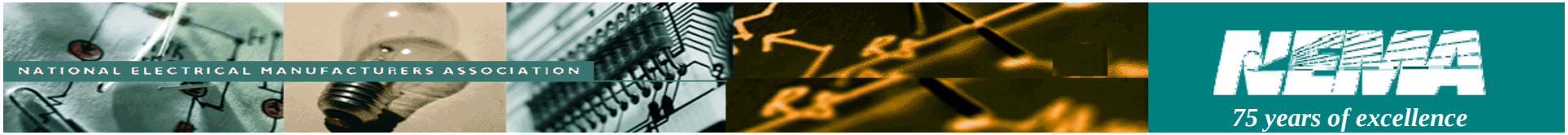


NEMA Proposal for 2008 Regulations of General Service Incandescent Lamps

Bill O'Connell

February 14th, 2006

Proposed Table vs. 45 Day Language – Frost and Clear Lamps

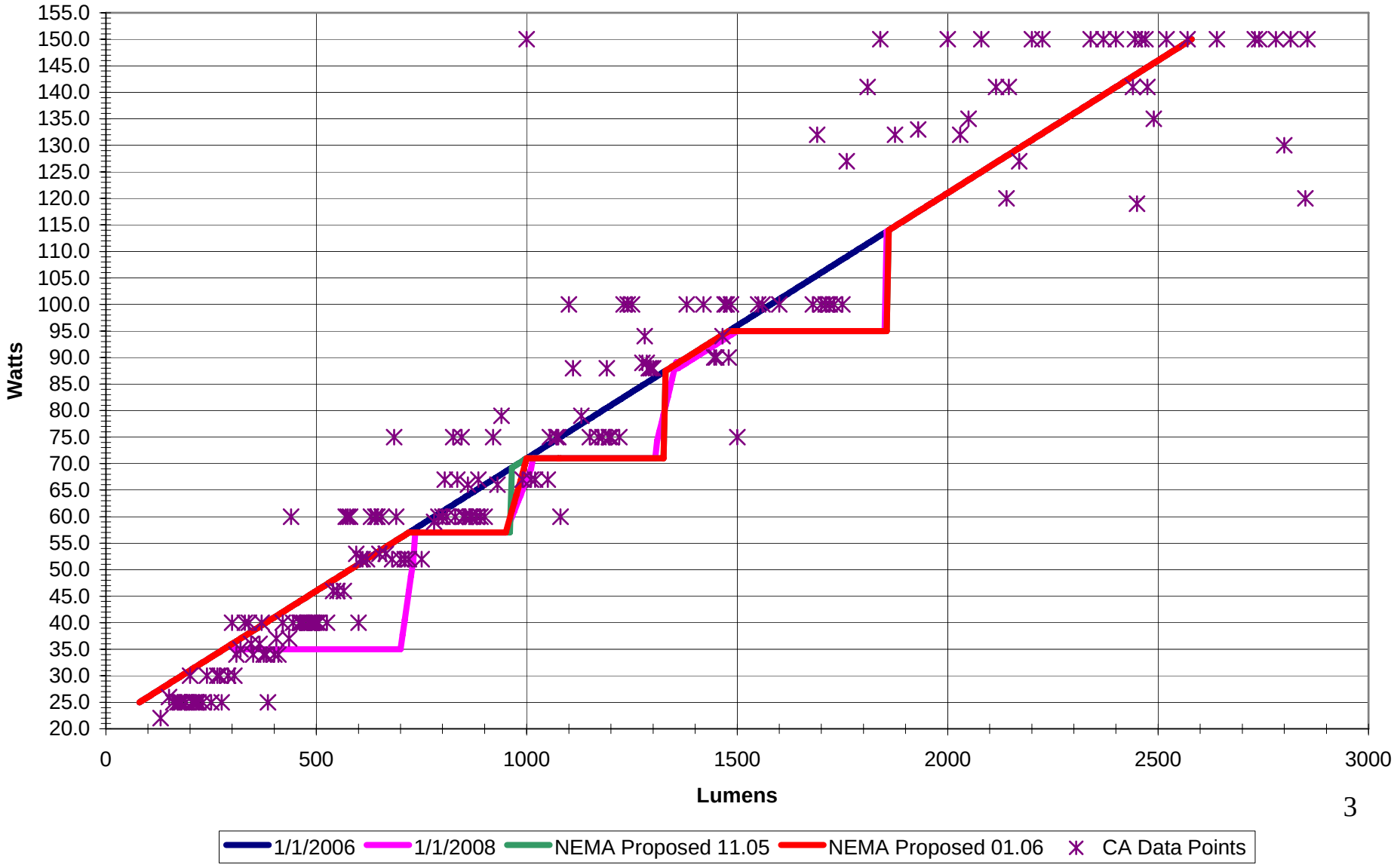
CEC 45-day language for Frost or Clear
Lumens (L) Maximum Power Use (watts) Frost or Clear CEC

	January 1, 2006	January 1, 2008	January 1, 2009
L ≤ 300	(0.0500 * Lumens) + 21	(0.0500 * Lumens) + 21	(0.05 * Lumens) + 20
300 < L ≤ 700	(0.0500 * Lumens) + 21	35	35
700 < L ≤ 740	(0.0500 * Lumens) + 21	(11/20 *Lumens) - 350	(11/20 *Lumens) - 350
740 < L ≤ 950	(0.0500 * Lumens) + 21	57	57
950 < L ≤ 1020	(0.0500 * Lumens) + 21	(1/5 * Lumens) - 133	(1/5 * Lumens) - 133
1020 < L ≤ 1300	(0.0500 * Lumens) + 21	71	71
1300 < L ≤ 1350	(0.0500 * Lumens) + 21	(33/100 * Lumens) - 358	(33/100 * Lumens) - 358
1350 < L ≤ 1500	(0.0500 * Lumens) + 21	(0.05 * Lumens) + 20	(0.05 * Lumens) + 20
1500 < L ≤ 1850	(0.0500 * Lumens) + 21	95	95
1850 < L ≤ 1900	(0.0500 * Lumens) + 21	(0.0500 * Lumens) + 21	(2/5 * Lumens) - 645
1900 < L ≤ 2500	(0.0500 * Lumens) + 21	(0.0500 * Lumens) + 21	(0.05 * Lumens) + 20
2500 < L ≤ 3000	(0.0500 * Lumens) + 21	(0.0500 * Lumens) + 21	145

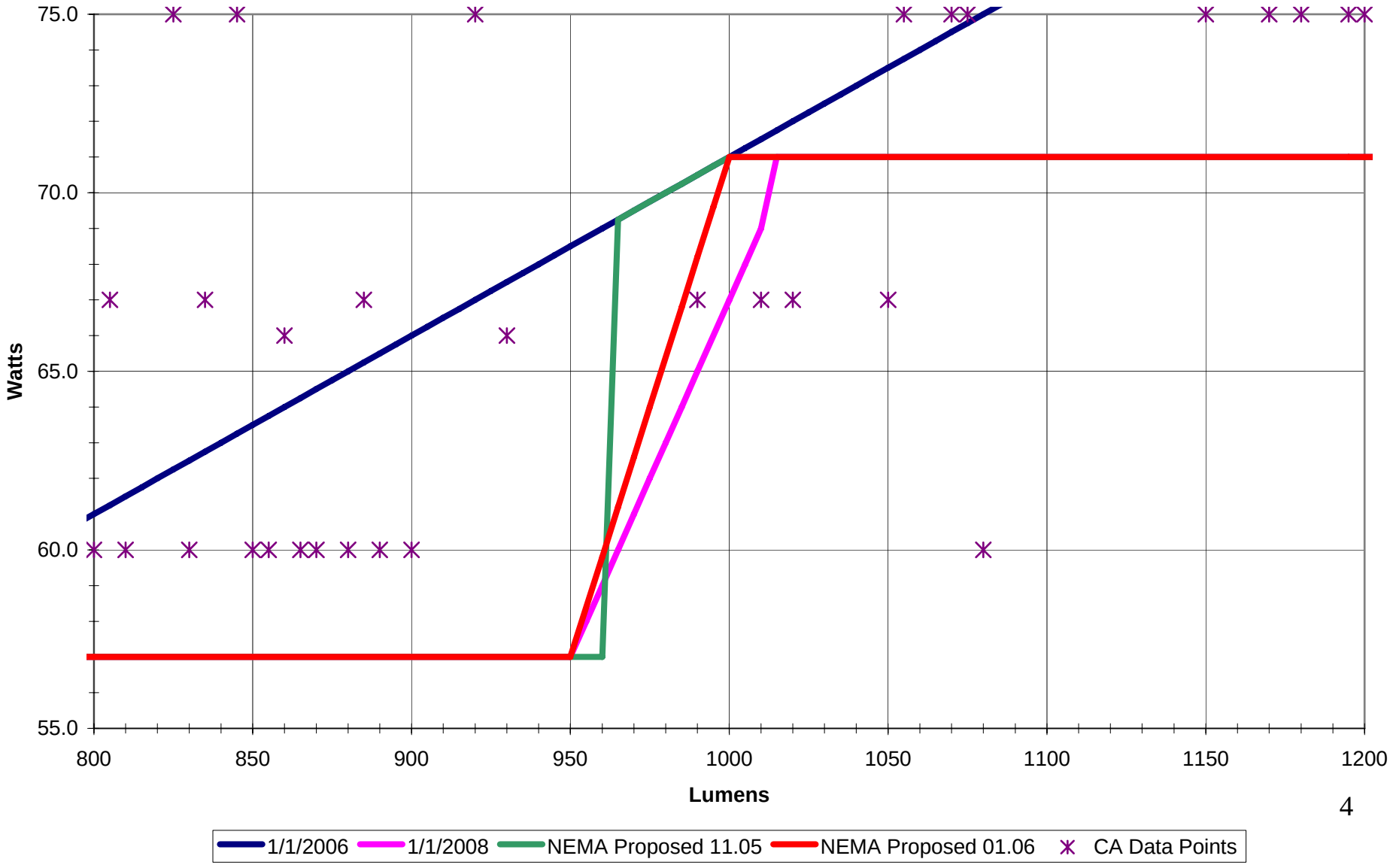
NEMA Proposal for Frost or Clear:
Lumens (L) Maximum Power Use (watts)

	January 1, 2006	January 1, 2008	January 1, 2009
L ≤ **720**	(0.0500 * Lumens) + 21	(0.0500 * Lumens) + 21	***No Change***
720 < L ≤ 950	(0.0500 * Lumens) + 21	57	***No Change***
950 < L ≤ **1000**	(0.0500 * Lumens) + 21	(7/25 * Lumens) - 209	***No Change***
1000 < L ≤ **1325**	(0.0500 * Lumens) + 21	71	***No Change***
1325 < L ≤ **1480**	(0.0500 * Lumens) + 21	(0.0500 * Lumens) + 21	***No Change***
1480 < L ≤ 1850	(0.0500 * Lumens) + 21	95	***No Change***
1850 < L ≤ **2850**	(0.0500 * Lumens) + 21	(0.0500 * Lumens) + 21	***No Change***

California Proposals Clear



California Proposals Clear



Proposed Table vs. 45 Day Language – Soft White Lamps

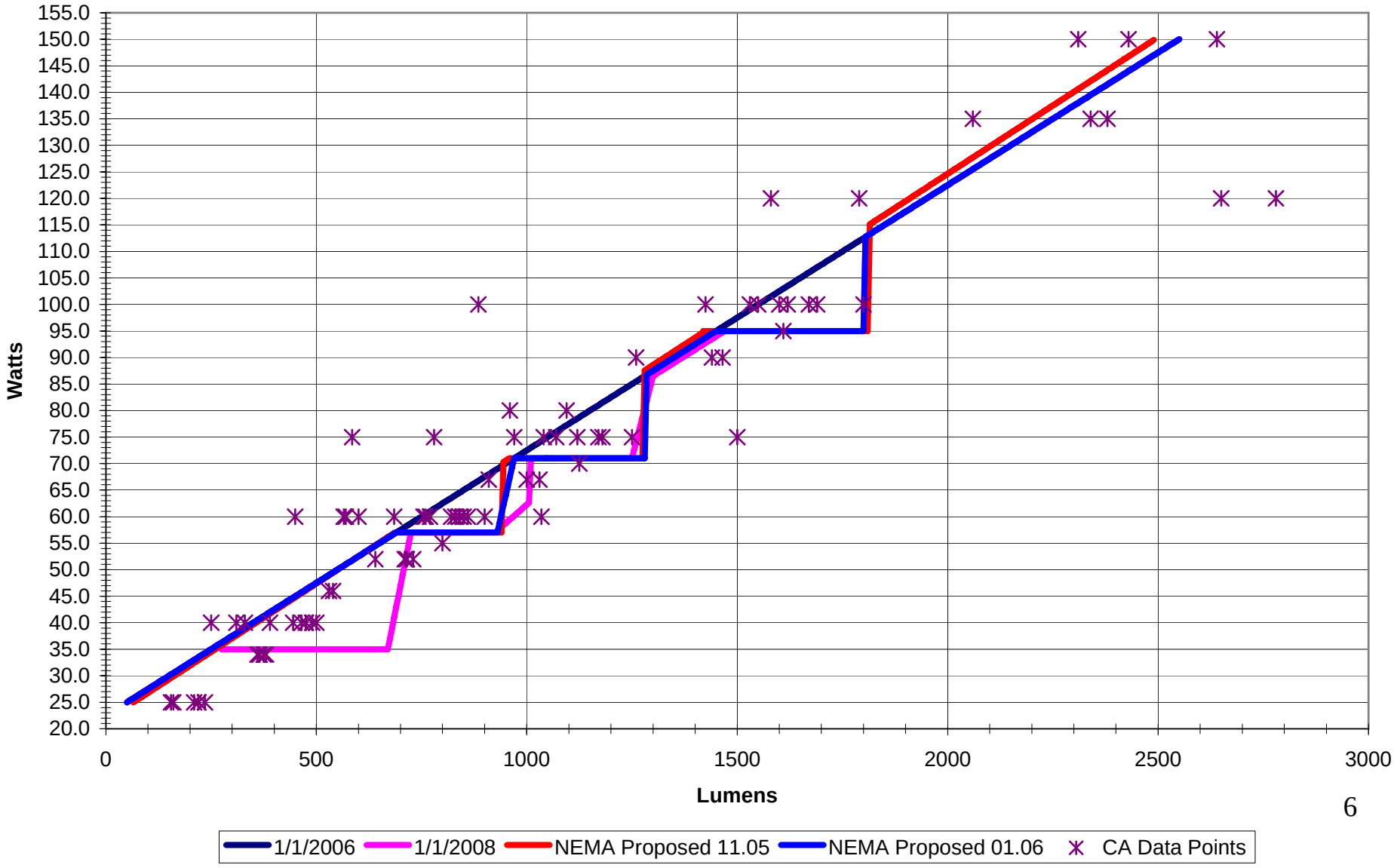
CEC 45-day language for soft white
Lumens (L) Maximum Power Use (watts)

	January 1, 2006	January 1, 2008	January 1, 2009
L ≤ 270	(0.0500 * Lumens) + 22.5	(0.0500 * Lumens) + 22.5	(0.0500 * Lumens) + 21.5
270 < L ≤ 670	(0.0500 * Lumens) + 22.5	35	35
670 < L ≤ 725	(0.0500 * Lumens) + 22.5	(2/5 * Lumens) – 233	(2/5 * Lumens) - 233
725 < L ≤ 925	(0.0500 * Lumens) + 22.5	57	57
925 < L ≤ 1000	(0.0500 * Lumens) + 22.5	(7/100 * Lumens) - 31/4	(7/100 * lumens) - 31/4
1000 < L ≤ 1250	(0.0500 * Lumens) + 22.5	71	71
1250 < L ≤ 1300	(0.0500 * Lumens) + 22.5	(31/100 * Lumens) – 633/2	(31/100 * Lumens) – 633/2
1300 < L ≤ 1470	(0.0500 * Lumens) + 22.5	(0.0500 * Lumens) + 21.5	(0.0500 * Lumens) + 21.5
1470 < L ≤ 1800	(0.0500 * Lumens) + 22.5	95	95
1800 < L ≤ 1850	(0.0500 * Lumens) + 22.5	(0.0500 * Lumens) + 22.5	(19/50 * Lumens) - 589
1850 < L ≤ 2470	(0.0500 * Lumens) + 22.5	(0.0500 * Lumens) + 22.5	(0.0500 * Lumens) + 21.5
2470 < L ≤ 3000	(0.0500 * Lumens) + 22.5	(0.0500 * Lumens) + 22.5	145

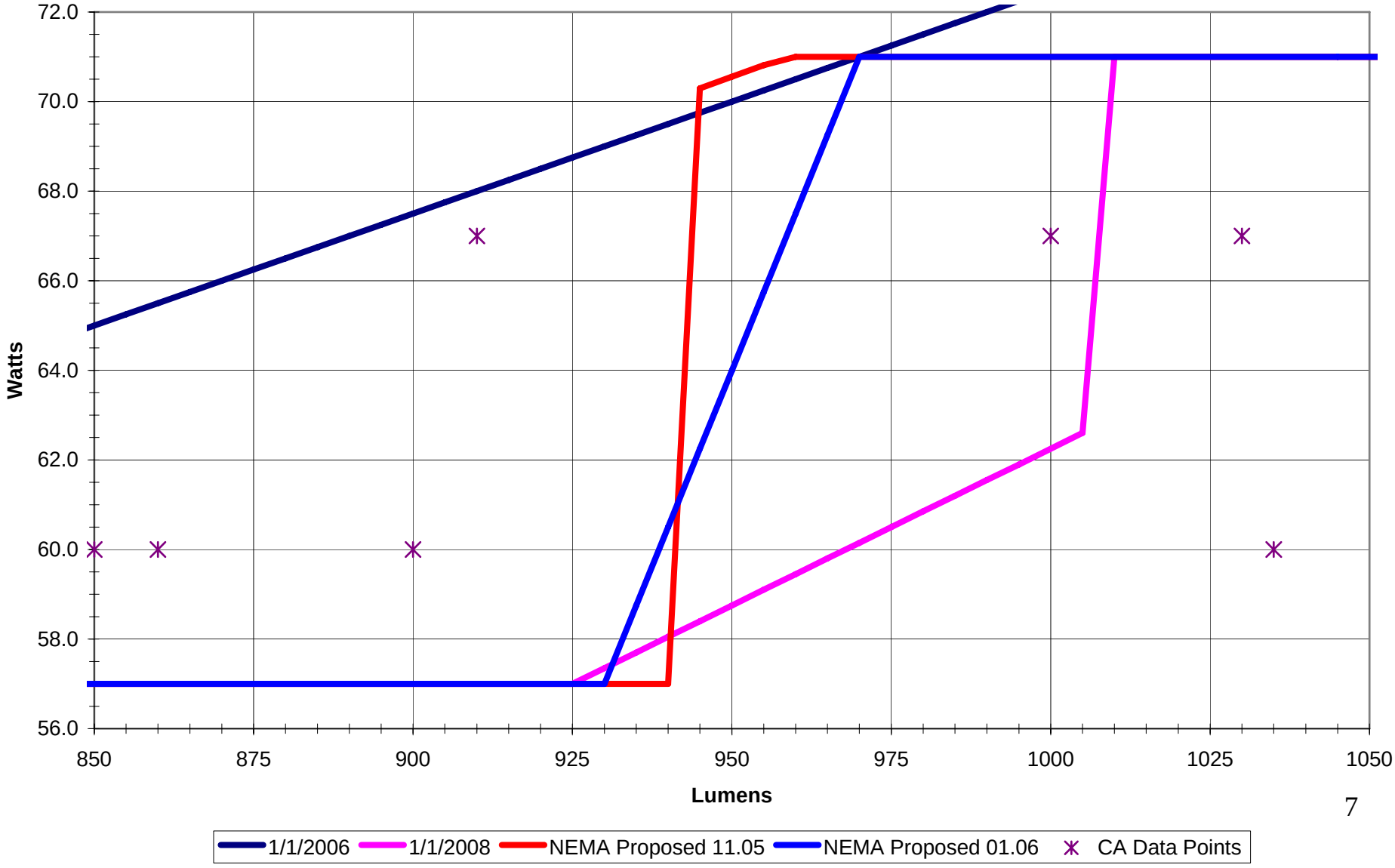
NEMA Proposed Soft White
Lumens (L) Maximum Power Use (watts)

	January 1, 2006	January 1, 2008	January 1, 2009
L ≤ **690**	(0.0500 * Lumens) + 22.5	(0.0500 * Lumens) + 22.5	***No Change***
690 < L ≤ **930**	(0.0500 * Lumens) + 22.5	57	***No Change***
930 < L ≤ **970**	(0.0500 * Lumens) + 22.5	(7/20 * Lumens) – 268.5	***No Change***
970 < L ≤ **1280**	(0.0500 * Lumens) + 22.5	71	***No Change***
1280 < L ≤ **1450**	(0.0500 * Lumens) + 22.5	(0.0500 * Lumens) + 22.5	***No Change***
1450 < L ≤ 1800	(0.0500 * Lumens) + 22.5	95	***No Change***
1800 < L ≤ **2850**	(0.0500 * Lumens) + 22.5	(0.0500 * Lumens) + 22.5	***No Change***

California Proposals Soft White



California Proposals Soft White



Summary of Changes

- New equations between 57 and 71 W lumen ranges are derived by finding the equation of the line between the two end points of the ranges
- No further regulation of 40W and 150W lamps at this time
- Simplifying all lumen range transitions to one equation only
- No regulation changes in 2009

% of today's 60W users who switch to 57W lamp	% of today's 60W users who switch to 71W lamp	energy saved, per lamp (watts)	% energy saved
100 %	0 %	3 W	5 %
90 %	10 %	1.6 W	2.7 %
80 %	20 %	0.2 W	0.3 %
70 %	30 %	-1.2 W	-2 %
60 %	40 %	-2.6 W	-4.3 %
50 %	50 %	-4 W	-6.7 %